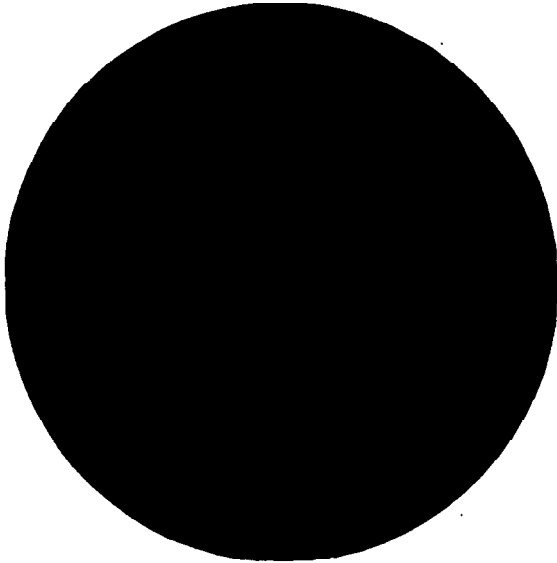


# **Response to Comments From IDEM on June 10, 1997**



SEP 8 12 12 PM '97

OFFICE OF SOLID  
AND HAZARDOUS  
WASTE  
PER

**Mid City Plating Co., Inc.  
Muncie, IN 47302**

**September 5, 1997**

Response Prepared By:

**Delta Compliance Consultants**  
12466 E. 62<sup>nd</sup> Street  
Indianapolis, IN 46236  
(317) 823-9269  
(317) 823-8916 Fax

~~CONFIDENTIAL REPORT~~  
**CANCELLED**

**Response to Comments From The IDEM on June 10, 1997**

**Comment #1** - The profile of the F008 waste shows alkaline pH of 11.8, 28,000 ppm of total cyanide, 18,000 ppm of zinc and 5,000 ppm of iron and small amounts of copper 58 ppm, chrome 83 ppm and aluminum 57 ppm. The amount of total cyanide found in the surface soil sample at site #1 is 21.6 ppm. This represents less than 0.1% of the cyanide found in the F008 waste profile. Certainly, one would expect a much higher concentration of cyanide if the contamination resulted from the "unit". However, if this were the case, then one could also expect zinc to be present in the contaminated soil in the same proportion as found in the F008 waste. Zinc does not naturally occur in the soil and would still be present even if a cation exchange did occur between iron and zinc complexed with cyanide.

For example, the ratio of cyanide to zinc in the F008 waste is 28/17 or 1.7 parts of cyanide for every 1 part of zinc. Therefore, one would expect to find about 13 ppm of zinc in the soil. Also, the pH of the soil would probably be slightly more alkaline. On the other hand, the cyanide contamination could be from sodium ferrocyanide used in road salt. Then one might expect to find above background levels of sodium.

However, additional sampling and laboratory testing would have to be conducted at considerable expense to obtain this data. Therefore, The IDEM would have to agree with this proposed methodology before performing the tests.

Much has been written about the "alkaline chlorination" process for cyanide treatment. Perstorp Analytical Environmental is a company that manufactures precision instruments for determining cyanide concentrations. The enclosed brochure titled "The Cyanide Testing Guide, Answers to Today's Most Commonly Asked Questions Concerning Monitoring Cyanide in Our Environment" describes the four (4) tests for cyanide which are as follows:

SEP 8 12 13 PM '97

OFFICE OF SOLID  
WASTE AND  
HAZARDOUS  
MATERIALS  
DIVISION

Total Cyanide - The US EPA method cited in the Federal Register defines total cyanide as follows . . . *"Cyanide ion and complex cyanides converted to hydrocyanid acid (HCN) by reaction in a reflux system of mineral acid in the presence of magnesium ion."* This method includes simple (KCN, NaCN) and complex cyanide species, which include the weak and strong metal cyanide complexes such as the iron cyanides. Thiocyanate is not included.

Cyanide Amenable to Chlorination (CATC) - This method measures simple cyanides as well as those complexes that either wholly or, as a result of the chlorination, partially dissociate and therefore are potentially toxic at lower concentrations.

This test is used as a measure of the effectiveness of the destruction of cyanide by chlorination. Samples are split into two portions. The first portion is analyzed by the total cyanide method. The second portion is treatment with calcium hypochlorite (to destroy cyanide) and is subsequently analyzed by the total cyanide method. The difference of the two numbers is defined as "cyanide amenable to chlorination."

Weak Acid Dissociable Cyanide (WAD) - This test is similar to the total cyanide procedure but uses a weak acid and lower temperatures. Simple and weak metal-cyano-complexes are recovered, while the stronger complexes are not. It has few, if any problems with interferences. WAD cyanide is gaining acceptance on an international level. In the US, some California Regional Water Quality Control Boards have begun to allow the use of this method for new NPDES permits. The Pennsylvania Department of Environmental Regulations (DER) has been using WAD cyanide in their monitoring program for more than ten years.

Free or Reactive Cyanide - Using colorimetric detection, this test responds only to the cyanide liberated under pH 6 conditions. Only simple cyanide and very weakly bound metal-cyano complexes are determined.

**CANCELLED**

The booklet also describes the difference between weak and strong metal-cyanide complexes in the table "Cyanide Species." Simple and weak metal-cyano-complexes are identified as "free or reactive" cyanide. Free cyanide is measured using either the Cyanide Amenable to Chlorination (CATC) or Weak Acid Dissociable Cyanide (WAD) tests. The "Cyanide Species" table shows that zinc cyanide complexes are either simple or weak metal-cyanide complexes. The CATC or WAD testing procedures would recover both of these complexes.

Conversely, the iron cyanide complex (ferrocyanide- an ingredient in road salt) is listed as a strong metal-cyanide complex. Therefore, ferrocyanide is not recovered by the CATC or WAD tests. Ferrocyanide is only recovered by the Total Cyanide test that includes both free or amenable, as well as strong metal-cyanide complexes.

Laboratory analysis of the soil sample at Site #1 showed zero "free cyanide" and 21.6 ppm of Total Cyanide. Therefore, based on this data, one can conclude that all the cyanide was a moderately to strong metal-cyanide complex. Since copper, nickel, silver, cobalt, and mercury were present only in trace amounts, then iron (present at 5,340 ppm) must be the metal forming the complex.

In addition, the "cyanide species" table is arranged in descending order of stability. For example, "free cyanide" is much less stable than ferrocyanide. Hence, one may conclude that ferrocyanide would be much more stable than zinc cyanide which is listed as a "simple cyanide" that is relatively insoluble or a weak metal-cyanide complex. Therefore, it is very unlikely that a cation exchange would take place with "naturally occurring" iron in the soils. This is because of the bonding of the zinc cyanide complex would prevent the disassociation of the cyanide ion unless a strong oxidizing agent such as chlorine were present. This would free the cyanide ion and allow it to combine with iron in the soil to form the ferrocyanide complex.

However, if the IDEM is not convinced that this cation exchange would not occur, a laboratory test could be devised. We feel that this is unnecessary, based on the literature and data that is available.

Moreover, Dr. Clarence Roy, Ph.D., has written extensively on treating plating wastestreams with the alkaline chlorination process. Dr. Roy's book "The Operation and Maintenance of Surface Finishing Wastewater Treatment Systems" states on page 101 "Cyanide is a strong complexing agent which could react with metals from other wastestreams to form complexes which are virtually indestructible. This is particularly true of the complexes formed by cyanide with iron, nickel and cobalt." Please notice that Dr. Roy has excluded zinc and copper which are commonly treated by alkaline chlorination.

Therefore, given the above analysis it is highly improbable that the cyanide in the soil came from the "unit." In addition, we just received a response to our request for a site search from the Emergency Response Notification System (ERNS) which is attached for your review. As of August 8, 1997, the report shows no reported releases at the site.

#### Comment #2

The alternate source of cyanide is the ferrocyanide ingredient in road salt. The site with slight contamination at the surface (21.6 ppm is below the RCRA and Voluntary Clean Up Levels) is located outside of the entrance to the "old chrome shop." Several years ago, an alley ran from the street to this entrance way. Fork trucks were used to bring work into the building. This area is slightly elevated and slopes toward the street. Road salt was liberally applied on the ground to melt ice during the winters to provide traction for the fork trucks going up the grade into the building. This conclusion is supported by the fact that the alley did not run on the northeast side of the building. Only background concentrations of complexed cyanide were found in these areas.

~~Confidential Report~~  
**CANCELLED**

Samples of soil with background levels of cyanide could be mixed with road salt and analyzed for total cyanide. This data would support the position that the cyanide contamination, indeed, resulted from the road salt. In addition, a soil sample taken by our professional engineer along the roadside of Route 67 and Main Street south of Muncie contained an above background (5.59 mg/l) level of total cyanide. If indeed, The IDEM considers the small amount of cyanide found in the surface soil sample at site #1 to pose a risk, then it is quite apparent that the entire State of Indiana poses a similar risk along the highways and byways. Road salt typically contains 50-300 mg/l of sodium ferrocyanide to prevent caking (see attached MSDS Sheet). This has posed a problem with cities meeting their effluent discharge permit limitations for total cyanide. A paper, which is enclosed, by Mr. Donald Skinner, Industrial Pretreatment Coordinator for the City of Kendallville, documents this problem. In fact, the State of Indiana is now in the process of amending its Water Quality Standards to regulate "free" cyanide instead of total cyanide. This is because total cyanide is very stable and does not pose an "environmental threat." Two (2) studies are cited in Mr. Skinner's paper which support this conclusion.

Comment #3

Why are the RCRA corrective action levels not applicable to this project? For example, in Indiana, why are the RCRA corrective action levels and Voluntary Clean Up levels different? Perhaps this is one of the problems the US Congress needs to address when they amend the Resource Conservation & Recovery Act (RCRA).

Comment #4

Sherry Laboratories in Muncie, IN has not completed the data for the "spike matrix" that we requested. This data will be forwarded to Ms. Rebecca Eifert's office as soon as it is received. We are hoping to see the reports during the week of Sept. 8, 1997.

**References:**

Berman, Richard, Ph.D., The Cyanide Testing Guide, Answers to Today's Most Commonly Asked Questions Concerning Monitoring Cyanide in Our Environment, Perstorp Analytical, Wilsonville, OR, 1994.

Roy, Clarence H. Ph.D, The Operation and Maintenance of Surface Finishing Wastewater Treatment Systems, American Electroplaters & Surface Finishers Society, Orlando, FL 1988.

Skinner, Donald., Cyanide Compliance Issues (Sodium Ferrocyanide in Road Salts), IWPCA Pretreatment Coordinators Round Table Discussions, Kokomo, IN 1997.

MSDS Sheet - Road Salt - Ice Melt

Emergency Response Notification System (ERNS) Site Report for Mid City Plating Co., Inc. August 8, 1997.

received  
2-9-95



Street Dept.  
Ice melt

PAGE 02

## MATERIAL SAFETY DATA

### SECTION I

MANUFACTURING NAME: ~~Abington~~ Salt Inc.  
ADDRESS: Abington Executive Park, Clarks Summit, PA 18411

EMERGENCY PHONE: 717-587-9241  
DATE PREPARED: 2/9/95  
BY: T. E. Dommer, Director of Technical Service

CHEMICAL NAME: Sodium Chloride (salt, halite, solar salt, rock salt) FORMULA: Mixture  
TRADE NAME: Sterling® Snow & Ice Control Salt  
CHEMICAL FAMILY: Inorganic Salt (alkali metal - halogen)

### SECTION II - HAZARDOUS INGREDIENTS - NONE

CAS REGISTRATION NUMBER - Contains sodium chloride (7647-14-5) and sodium ferrocyanide (13601-19-9).

*In 8 90-100 ppm  
50-200 ppm*

### SECTION III - PHYSICAL DATA (SALT)

BOILING POINT (°C) @760 mm - 1465  
VAPOR PRESSURE (mm Hg) @746.9°C - 2.4  
VAPOR DENSITY - NA  
SOLUBILITY IN WATER (g/100cc) - 35.7 @0°C, 36.0 @20°C  
APPEARANCE & ODOR - Solid white or off-white crystalline material is odorless.

SPECIFIC GRAVITY (H<sub>2</sub>O - 1) - 2.165  
%VOLATILE (By Volume) - NA  
EVAPORATION RATE - NA

### SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT - NONE  
FLAMMABLE LIMITS - Not Flammable  
SPECIAL/UNUSUAL FIRE FIGHTING PROCEDURES/HAZARDS - NONE/Not Combustible  
NATIONAL FIRE PROTECTION ASSOCIATION CODE - 000

EXTINGUISHING MEDIA - NA  
EXPLOSIVE LIMITS - Not Explosive

### SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUES - Rat: Oral LD<sub>50</sub> - 3.75 g/kg; MLD I.V. - 2.5 g/kg  
EFFECTS OF OVERDOSE OR OVEREXPOSURE - No acute systemic, chronic systemic or chronic local toxicity. In sensitive persons some dermal or eye irritation effects, or after excessive ingestion, edema and/or temporary elevated blood pressure effects. Savage ingestion of 15-50 g may induce vomiting resulting in partial vacating of stomach contents.  
EMERGENCY & FIRST AID PROCEDURES - Skin and eyes or other mucous membranes: Flush with water for at least 15 minutes, seek medical attention if irritation persists; Ingestion: High fluid intake facilitates urinary excretion and relief of edema and temporary elevated blood pressure.  
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE - NA

### SECTION VI - REACTIVITY DATA

STABILITY - Stable  
HAZARDOUS DECOMPOSITION PRODUCTS - Hydrochloric acid from above acid mixtures with salt.  
HAZARDOUS POLYMERIZATION - NONE. Will not occur.

CONDITIONS TO AVOID - Concentrated acids such as sulfuric or nitric.

### SECTION VII - SPILLS OR LEAKS PROCEDURES

STEPS TO BE TAKEN IN CASE OF SPILL OR LEAK - Non-hazardous. DOT classification - Non-corrosive. Sweep up and flush with water.  
WASTE DISPOSAL METHODS - Dry to land fill or dissolve in sufficient amounts of water to meet local and state water quality standards.

### SECTION VIII - SPECIAL PROTECTION & PRECAUTIONS

VENTILATION - Local exhaust not necessary. Mechanical control dust collection may be used.  
PERSONAL PROTECTIVE EQUIPMENT - Gloves recommended, eye goggles optional and respiratory not necessary. Wash hands after handling.  
PRECAUTIONS (HANDLING/STORAGE) - Store under DRY (less than 75% R.H.) conditions to prevent caking of salt. Store under protective cover, whenever and wherever possible.

Abington  
Executive Park  
P O Box 352  
Clarks Summit  
Pennsylvania  
18411-0352  
Phone: 717-587-5131



APR 18 '95 12:58PM MZO IND\_GRO DIV

P.1



Alcoa Salt Inc.

## Sterling® Snow and Ice Control Salt

Cleveland OH, production

### Description

Sterling® Snow and Ice Control Salt is a coarse rock salt (Sodium Chloride) mined from bedded, underground halite deposits and, then, crushed and screened, under process control procedures, to produce a general purpose chemical. Yellow Prussiate of Soda is added as an anti-caking agent. Sterling® Snow and Ice Control Salt is recommended for use as a de-icing compound.

### Approved Use

Sterling® Snow and Ice Control Salt is designed for use on highways, parking lots and other surfaces which require snow and ice control. Sterling® Snow and Ice Control Salt is the basic melter used by public and private maintenance groups. Sterling® Snow and Ice Control Salt meets current ASTM-D632-84 specifications for Sodium Chloride and particle gradation (Type 1, Grade 1 "Standard Gradation").

### Availability

Sterling® Snow and Ice Control Salt is available in bulk.

### Storage

To retard caking, Sterling® Snow and Ice Control Salt should be stored in a dry, covered area at relative humidities below 75%. Cycling salt through the 75% relative humidity zone will rapidly increase the onset of caking.

### Technical Information

For further product information, contact the Director of Technical Service, Alcoa Salt Inc., Abington Executive Park, Clarks Summit, PA 18411, by phone 717-587-9241 or FAX 717-586-7792.

### Sales Offices

For order, pricing, delivery or other service information, contact:

CLARKS SUMMIT, PA 800-752-SALT FAX 717-586-7145  
[752-7258]

## Product data

Abington Executive Park • Clarks Summit, PA 18411

PD 7041  
08-91

### Properties

#### Chemical

Component <sup>1</sup>	Units	Typical Analysis
Sodium Chloride <sup>2</sup>	%	95.8
Surface Moisture	%	0.07
Water Insolubles	%	0.38
Calcium <sup>3</sup>	%	1.08
Sulfate <sup>3</sup>	%	2.70
Magnesium <sup>3</sup>	%	0.02
Yellow Prussiate of Soda	ppm	50

#### Physical

Sieve Analysis <sup>1</sup>				
USC Mesh	Opening Millimeters	Weight Percent Passing		
		Minimum	Typical	Maximum <sup>4</sup>
1/2	12.5	-	100	100
3/8	9.5	85	98	100
4	4.75	20	71	90
8	2.36	10	38	60
30	0.600	0	11	15

#### Other Physical and Functional

Parameter <sup>1</sup>	Units	Typical
Bulk Density (loose)	lb/cu ft	75
Bulk Density (packed)	lb/cu ft	77

(1) Analytical methods available on request. (2) By difference of impurities, moisture free basis, before additions. (3) Water soluble. (4) Physical requirements per ASTM-D632-84.

Cyanide Compliance Issues  
(Sodium Ferrocyanide in Road Salts)

Donald Skinner, Industrial Pretreatment

City of Kendallville  
234 South Main Street  
Kendallville, IN. 46755  
(219) 347-1362

Our interest in cyanide compliance has resulted in problems with meeting our N.P.D.E.S. discharge levels for cyanide during the winter months. We noticed that we were having violations occur during periods of snow melt and icing conditions, but couldn't attribute it to a specific source. We reviewed all potential industrial sources but found nothing that would explain our violations, in fact we rarely had detectable readings from industrial samplings.

We consulted Bill Blue of I.D.E.M., who stated that if there were no industrial sources present then we should look at the possibilities of road salts which use sodium ferrocyanide as an anti-caking agent. We then received an M.S.D.S. sheet on our road salt from our street department. In reviewing the information we did find that sodium ferrocyanide was present in our road salts. We then contacted the manufacturer of the road salt who verified that sodium ferrocyanide was present in concentrations of (200-300) mg/l or greater, because "process control in this area is not always that precise".

We still felt we had some unanswered questions, because we are (97%) storm water separated from sanitary sewers. When we reviewed our violations with our plant weather charts we found that some higher levels were recorded during melting conditions including several days after the original melt occurred. We then realized that we had car washes that were contributing to our problem.

We explored the possibility of point source treatment of our problems at each of our car washes in our city. After contacting several of the owners, as well as some engineering companies we discovered that there was no current package system available. There certainly was nothing available with an economy of scale needed for the discharge from the car washes. One statement made by a car wash owner was difficult to refute "if sodium ferrocyanide is dangerous to the environment then why does the state allow it to be spread on our highways where it can enter our lakes and rivers."

There certainly is a greater amount of sodium ferrocyanide entering our receiving bodies of water throughout the state by means of stormwater conduits, in proportion to municipal discharges. Currently the State of Indiana has their N.P.D.E.S. effluent limits based only on total cyanide. Unfortunately, complexed cyanides are also detected as part of total cyanide. The question then becomes is sodium ferrocyanide actually detrimental to the environment.

In an attempt to find risk assessment based studies on sodium ferrocyanide, we first reviewed E.P.A. information sources. On June 14, 1995, we contacted E.P.A. Risk Assessment in Washington, and requested any available information on sodium ferrocyanide that might be available. On June 16, 1995 we received a reply from Dr. Gloria Miller who stated that: "no risk assessment has been performed on sodium ferrocyanide. The E.P.A. has no basis to establish effluent parameters for, or including sodium ferrocyanide."

On June 15, 1995 we contacted Dr. James Hoadly of the F.D.A. and he returned a call on June 20, 1995, in which he stated that sodium ferrocyanide is an approved food additive as an anti-caking agent, (21 CFR 172.490).

A report prepared by the International Salt Company, "Subacute Toxicological Studies of Sodium Ferrocyanide, was submitted to F.D.A. for the approval and the use of yellow prussiate of soda (5-10 ppm) in our salt.... Toxicological studies have indicated that 50,000 times this amount have no adverse effects of any kind." (1).

The only remaining health concerns that remain is the potential for sodium ferrocyanide to break down to free and available cyanides. In reviewing current technologies to breakdown complexed cyanides it requires the use of: ph adjustment to (12), and then raising the liquid temperatures to (100 C), and then chlorination. If such extreme methods are necessary to remove sodium ferrocyanide, we question how such conditions can possibly duplicated in nature.

(1) "Subacute Toxicology Studies of Sodium Ferrocyanide" prepared by the Food and Drug Research Laboratories, November 30, 1959.  
page 20

There is also documented studies that sodium ferrocyanide can disassociate to free cyanide with direct sunlight or ultraviolet radiation as duplicated in lab conditions, Burdick and Lipschuetz (2). The light penetration during winter months in our receiving body of water is fractional as compared to the lab conditions in the forementioned study. Again there is no actual field condition studies to substantiate the actual rate of breakdown of sodium ferrocyanide, or if it does at all.

### Summary

The question then arises, why sodium ferrocyanide is considered as part of total amenable cyanide in our effluent limitations? It appears that the E.P.A. and I.D.E.M. has no data or risk assessment to base an objection to sodium ferrocyanide in our effluent.

The recent passage of the Indiana version of the G.L.I. has addressed this issue, to some extent. In recent discussions with Chuck Dunn of I.D.E.M.'s of the Office of Water Management, it is currently under review to use only free and amenable cyanide in setting effluent limits for N.P.D.E.S. permits. Unfortunately it is yet been finalized, and as to how it will be applied.

If I.D.E.M. is still unwilling to change to free amenable cyanide limits, it would then seem they are liable and responsible for the violation of the Indiana Water Quality Based Standards by allowing sodium ferrocyanide to be spread on our highways and streets if they still contend that there is an environmental risk.

It appears that the Office of Water Management is unaware of this problem or are wrestling with enactment resolutions brought on by the passage of the Great Lakes Initiative in Indiana. In either case, continued pressure by municipalities for permit revisions will keep the issue in the forefront.

(2) Burdick, G.E. and Lipschuetz, M., "Toxicity of Ferro - and Ferrocyanide Solutions to Fish, and determination of the Cause of Mortality." Trans. Amer. Fisheries Soc., 78, 192 (1948) (Publ. 1950).

## **RESPONSE TO REQUEST FOR ERNS SITE SEARCH**

This is in response to your request for Emergency Response Notification System (ERNS) reports at the site(s) listed below. As of August 8, 1997, there are no reports which are responsive to your request. Please note that all data in ERNS are initial notification data and may be subject to change. If you have any questions concerning ERNS, please call the information line at (202) 260-2342.

- 416 S. Hackley St.  
Muncie, Delaware County, Indiana 47302



# ERNS Statistics

## Emergency Response Notification System (ERNS) Fact Sheet

Office of Emergency and Remedial Response  
Emergency Response Division 5202G

Quick Reference Fact Sheet

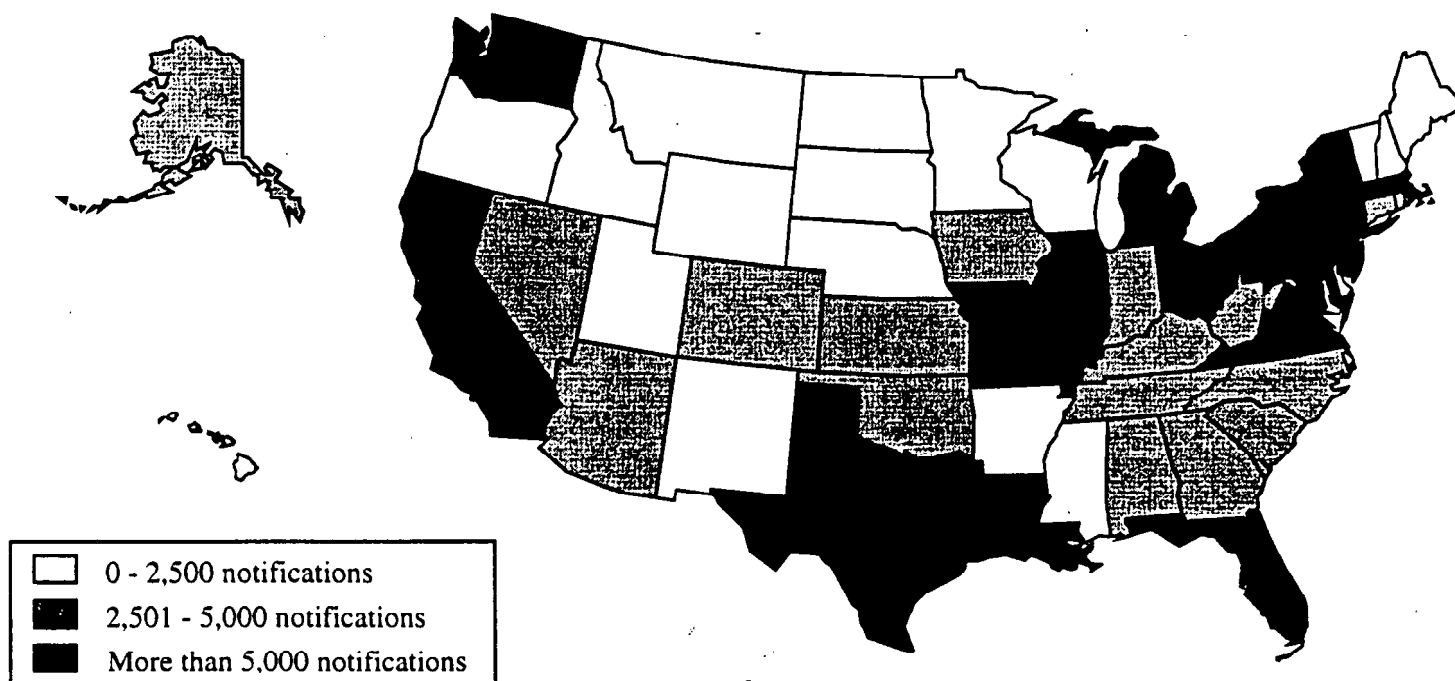
### What is ERNS?

The Emergency Response Notification System (ERNS) is a computer database containing information on release notifications of oil and hazardous substances that have occurred throughout the United States and have been reported to the National Response Center, the ten EPA Regions, or the U.S. Coast Guard. The initial notification data may be updated with information from various Federal, State, and local response authorities as appropriate. ERNS data can be used to analyze release notifications, support emergency planning efforts, and assist decision makers in developing spill prevention programs.

### Data Limitations

Because ERNS is a database of initial notifications and not incidents, there are several limitations to the data. ERNS primarily contains initial accounts of releases, made during or immediately after a release occurs when exact details are often unknown. The data are usually not updated unless an EPA Region is involved in the response action. There may be multiple reports for a single incident, (this occurs when the caller makes a second report to update original data or a private observer reports a release that has already been reported by the facility). Because reports are taken over the phone, transcription errors (e.g., misspellings of discharger or location information), occasionally limit the quality of some data.

### Number of Notifications by State, 1987 - 1994



## CERCLA Notifications by Size

	1987	1988	1989	1990	1991	1992	1993	1994
Less than 1,000 pounds*	3,459	3,893	5,376	5,150	5,420	5,891	6,124	6,551
1,000 - 9,999 pounds	741	867	1,035	982	959	935	835	830
10,000 - 99,999 pounds	310	373	388	398	386	311	322	257
100,000 pounds or greater	54	77	103	71	72	63	56	48
Total**	4,541	5,176	6,865	6,555	6,801	7,181	7,301	7,656

## Petroleum Notifications by Size

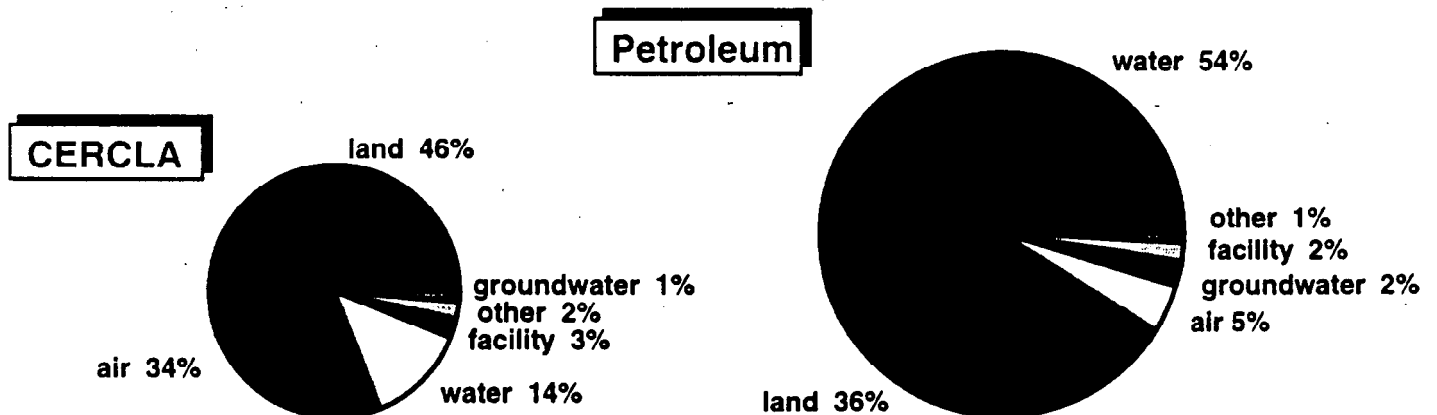
	1987	1988	1989	1990	1991	1992	1993	1994
Less than 1,000 gallons*	11,029	11,252	11,864	13,319	13,689	12,742	12,629	13,052
1,000 - 9,999 gallons	943	840	935	971	986	886	8	673
10,000 - 99,999 gallons	174	159	175	183	178	122	1	102
100,000 gallons or greater	25	25	33	26	20	14	20	13
Total**	12,164	12,265	12,999	14,495	14,868	13,762	13,592	13,835

\* Includes notifications that had no quantity reported.

\*\*Notifications do not add to total because a single notification may have releases of more than one material.

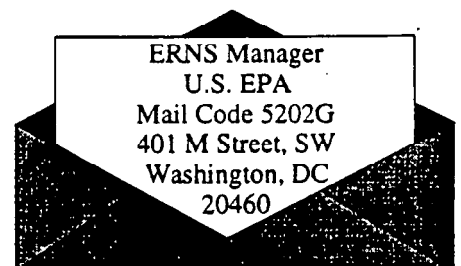
## Release Reports By Media

Requests for information on release reports of petroleum products and hazardous substances defined under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) are most common. CERCLA hazardous substances notifications account for approximately 19% of the total number of notifications in ERNS, and petroleum product notifications account for approximately 40%.



## Obtaining ERNS Data

Additional information on the ERNS data base may be obtained by calling the ERNS Information Line at (202) 260-2342, by sending an e-mail request to [erns.info@epamail.epa.gov](mailto:erns.info@epamail.epa.gov), or by writing to EPA at the following address:





# ERNS Statistics

# Emergency Response Notification System (ERNS) Fact Sheet

Office of Emergency and Remedial Response  
Emergency Response Division 5202G

## Quick Reference Fact Sheet

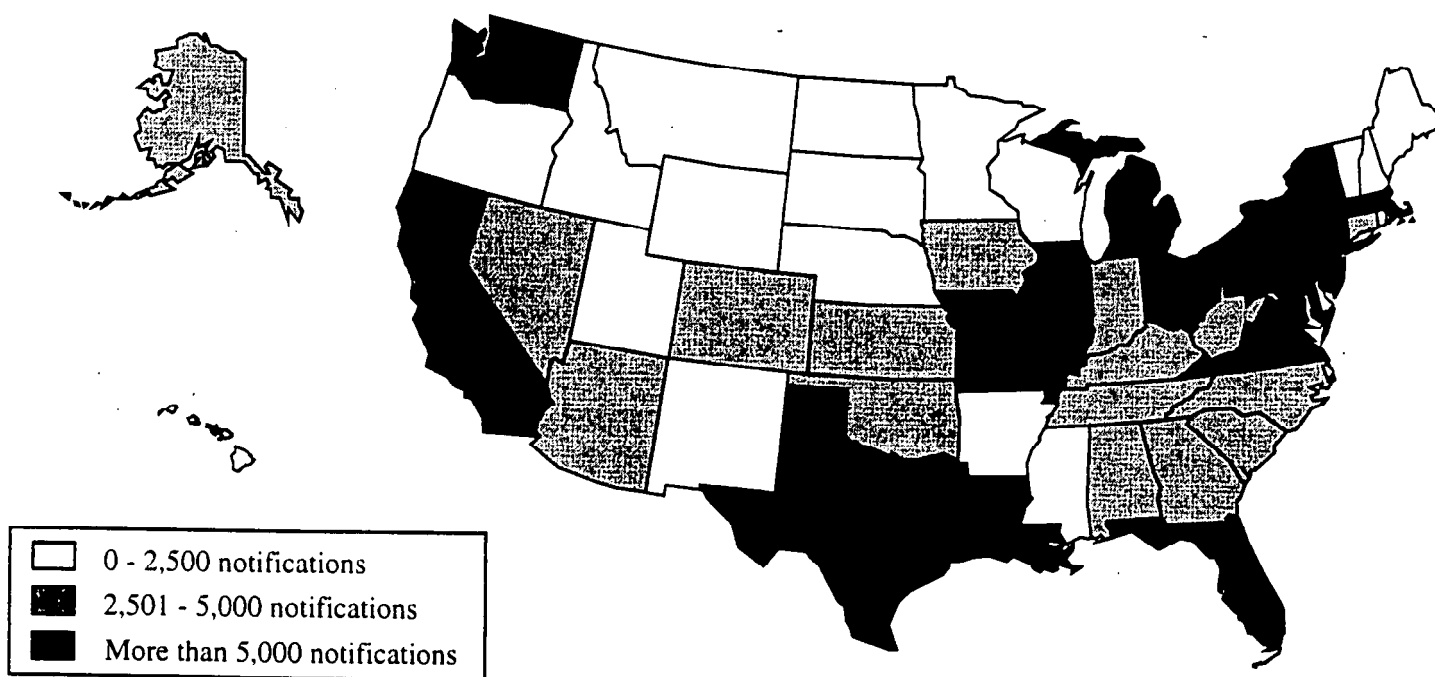
## What is ERNS?

The Emergency Response Notification System (ERNS) is a computer database containing information on release notifications of oil and hazardous substances that have occurred throughout the United States and have been reported to the National Response Center, the ten EPA Regions, or the U.S. Coast Guard. The initial notification data may be updated with information from various Federal, State, and local response authorities as appropriate. ERNS data can be used to analyze release notifications, support emergency planning efforts, and assist decision makers in developing spill prevention programs.

## Data Limitations

Because ERNS is a database of initial notifications and not incidents, there are several limitations to the data. ERNS primarily contains initial accounts of releases, made during or immediately after a release occurs when exact details are often unknown. The data are usually not updated unless an EPA Region is involved in the response action. There may be multiple reports for a single incident, (this occurs when the caller makes a second report to update original data or a private observer reports a release that has already been reported by the facility). Because reports are taken over the phone, transcription errors (e.g., misspellings of discharger or location information), occasionally limit the quality of some data.

## Number of Notifications by State, 1987 - 1994







# ERNS and Site Searches

## Emergency Response Notification System (ERNS) Fact Sheet

Office of Emergency and Remedial Response  
Emergency Response Division 5202G

Quick Reference Fact Sheet

### What is ERNS?

The Emergency Response Notification System (ERNS) is a computer database containing information on release notifications of oil and hazardous substances that have occurred throughout the United States and have been reported to the National Response Center (NRC), the ten EPA Regions, or the U.S. Coast Guard (USCG). The initial notification data may be updated with information from various Federal, State, and local response authorities as appropriate. ERNS data can be used to analyze release notifications, support emergency planning efforts, and assist decision makers in developing spill prevention programs.

### What is a Site Search?

In 1993, the American Society for Testing and Materials (ASTM) published Standard E 1527 to reflect good commercial and customary practice for performing Environmental Site Assessments which are recommended by ASTM for commercial real estate transfers. This standard was developed to meet the Comprehensive Environmental Response, Compensation, and Liability Act requirement that all appropriate inquiry be conducted into the previous ownership and uses of the property. The ASTM standard includes searching several data sources (including the ERNS database) to gather information regarding recognized environmental conditions at the property. A site search may be accomplished by obtaining information from the ERNS database for reports related to a specific location.

### How are Data Collected in ERNS?

When a call is made to the NRC or one of the ten EPA Regions, a report is created containing all of the release information that the caller provided. The data usually include information about the material and the quantity released, the discharger, and the location of the release. This report is transferred to an appropriate agency which evaluates the need for a response, and once daily all records are electronically transferred to the ERNS database. In addition, each of the EPA Regions can update ERNS records if additional information becomes available after the initial notification. However, if a caller makes an additional report to update previous data, a second record is created and transferred to the ERNS database.

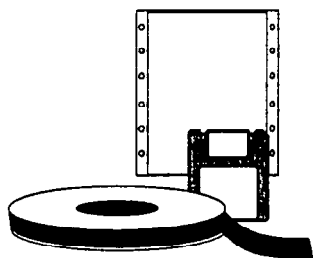


### Data Limitations

Because ERNS is a database of initial notifications and not incidents, there are several limitations to the data. ERNS primarily contains initial accounts of releases, made during or immediately after a release occurs when exact details are often unknown. The data are usually not updated unless an EPA Region is involved in the response action. There may be multiple reports for a single incident, (this occurs when the caller makes a second report to update original data or a private observer reports a release that has already been reported by the facility). Because reports are taken over the phone, transcription errors (e.g., misspellings of discharger or location information), occasionally limit the quality of some data.

## How are Site Search Data Available?

ERNS site search data are available in various report formats and can either be delivered via First Class Mail or e-mail through the Internet. The standard format is a one-page report per release notification in various word processing formats. This format is useful for requestors who are interested in a limited number of sites. There are several alternatives for requestors who need more data.



**Reports of notifications from specific counties or states:** These reports may be produced in the one-page standard report format in various word processing formats or in dBASE® files. This is particularly useful for requestors who need information about many sites within a state or county. These requestors may wish to obtain state- or county-wide information instead of making multiple data requests by site.

**ERNS database:** This is recommended for requestors who have extensive needs for ERNS data. The database is available two ways, (1) all data by year which is available on magnetic data tapes from the National Technical Information Service (NTIS), or (2) data for each EPA Region by year which may be downloaded from EPA via the Internet, direct dial-in, or FedWorld. The magnetic data tapes may be purchased from NTIS in Springfield, VA at (703) 487-4650. Information on downloading data may be obtained by calling the ERNS Information Line (see "Obtaining ERNS Data").

## Requesting and Receiving Data

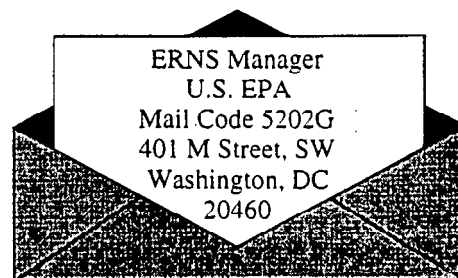
When requesting a search of ERNS, you should include several pieces of information to expedite the search process and to ensure an exhaustive search of the database. The request should include the discharger organization, if available, and the street address of the site, including the county.

Standard reports include the following information: the date of the release and the notification, report number, discharger organization and address, material and quantity released, the location of the release, and the cause and source of the release. Some of the fields may be left blank when information is unknown at the time of the notification or is caller information that is protected by the Privacy Act of 1974. A report of the ERNS results will be completed in approximately two weeks or sooner if either a phone call or a fax reporting the results of the search is sufficient.

**What Will it Cost?** The cost of obtaining ERNS data is based on the data storage medium requested and the time and effort expended to fill the request. The fee policy is described in the Code of Federal Regulations (CFR), 40 CFR 2.120. EPA charges \$20.00 per hour of programming time, and \$8.00 per labor hour of downloading and preparation time. There are additional charges for data storage media such as diskettes. If the total cost is under \$25.00, the fee is waived. If, however, EPA has reason to believe that a requestor or group of requestors is breaking down a request into a series of smaller requests to avoid charges, the requests will be combined to determine the total cost. Currently there is no charge for obtaining data through the Internet. Please contact NTIS for information on their prices.

## Obtaining ERNS Data

Site searches or additional information on the ERNS data base may be obtained by calling the ERNS Information Line at (202) 260-2342, by sending an e-mail request to [erns.info@epamail.epa.gov](mailto:erns.info@epamail.epa.gov), or by writing to EPA at the following address:





# ERNS and Site Searches

## Emergency Response Notification System (ERNS) Fact Sheet

Office of Emergency and Remedial Response  
Emergency Response Division 5202G

Quick Reference Fact Sheet

### What is ERNS?

The Emergency Response Notification System (ERNS) is a computer database containing information on release notifications of oil and hazardous substances that have occurred throughout the United States and have been reported to the National Response Center (NRC), the ten EPA Regions, or the U.S. Coast Guard (USCG). The initial notification data may be updated with information from various Federal, State, and local response authorities as appropriate. ERNS data can be used to analyze release notifications, support emergency planning efforts, and assist decision makers in developing spill prevention programs.

### What is a Site Search?

In 1993, the American Society for Testing and Materials (ASTM) published Standard E 1527 to reflect good commercial and customary practice for performing Environmental Site Assessments which are recommended by ASTM for commercial real estate transfers. This standard was developed to meet the Comprehensive Environmental Response, Compensation, and Liability Act requirement that all appropriate inquiry be conducted into the previous ownership and uses of the property. The ASTM standard includes searching several data sources (including the ERNS database) to gather information regarding recognized environmental conditions at the property. A site search may be accomplished by obtaining information from the ERNS database for reports related to a specific location.

### How are Data Collected in ERNS?

When a call is made to the NRC or one of the ten EPA Regions, a report is created containing all of the release information that the caller provided. The data usually include information about the material and the quantity released, the discharger, and the location of the release. This report is transferred to an appropriate agency which evaluates the need for a response, and once daily all records are electronically transferred to the ERNS database. In addition, each of the EPA Regions can update ERNS records if additional information becomes available after the initial notification. However, if a caller makes an additional report to update previous data, a second record is created and transferred to the ERNS database.



### Data Limitations

Because ERNS is a database of initial notifications and not incidents, there are several limitations to the data. ERNS primarily contains initial accounts of releases, made during or immediately after a release occurs when exact details are often unknown. The data are usually not updated unless an EPA Region is involved in the response action. There may be multiple reports for a single incident, (this occurs when the caller makes a second report to update original data or a private observer reports a release that has already been reported by the facility). Because reports are taken over the phone, transcription errors (e.g., misspellings of discharger or location information), occasionally limit the quality of some data.



U.S. Environmental Protection Agency's  
Office of Emergency and Remedial Response  
ANNOUNCES....

# ***ERNS is on the Internet!***

**A *FASTER***  **Easier** Method for Obtaining  
ERNS Data!

Data from the Emergency Response Notification System (ERNS) are now available on the Internet. The most frequently used ERNS data are on the Environmental Protection Agency (EPA) web site for public information and use. The data are divided by EPA Region and year, and may be downloaded in a compressed .dbf format, along with the necessary documentation. In addition, an on-line querying system and other enhancements are in the works.

The ERNS data files can be accessed through the World Wide Web, the EPA Gopher Server, and an anonymous FTP Server.



The address of the ERNS page on EPA's World Wide Web Server is  
<http://www.epa.gov/ERNS/index.html>.



The address of the EPA Gopher Server is [gopher.epa.gov](http://gopher.epa.gov). You can then locate the data by moving through the following sequence of menu headings: (1) Software and Databases, and (2) Emergency Response Notification System (ERNS).



The address of EPA's anonymous FTP Server is [ftp.epa.gov](ftp://ftp.epa.gov). The files are located in the subdirectory [/pub/gopher/ERNS](ftp://ftp.epa.gov/pub/gopher/ERNS).

If you need additional information, please call the ERNS Information Line at (202) 260-2342 or email questions to [erns.info@epamail.epa.gov](mailto:erns.info@epamail.epa.gov).





# An Overview of ERNS

## Emergency Response Notification System (ERNS) Fact Sheet

Office of Emergency and Remedial Response  
Emergency Response Division 5202G

Quick Reference Fact Sheet

### What is ERNS?

The Emergency Response Notification System (ERNS) is a database used to store information on notifications of oil discharges and hazardous substances releases. The ERNS program is a cooperative data sharing effort among the Environmental Protection Agency (EPA) Headquarters, the Department of Transportation Research and Special Programs Administration's (RSPA) John A. Volpe National Transportation Systems Center, other DOT program offices, the ten EPA Regions, and the National Response Center (NRC). EPA Headquarters manages and provides significant funding for ERNS, and RSPA provides operation and maintenance support through an interagency agreement with EPA. ERNS provides the most comprehensive data compiled on notifications of oil discharges and hazardous substance releases in the United States. Since its inception in 1986, more than 275,000 release notifications have been entered into ERNS.

### Release Notifications in ERNS

The types of release reports that are available in ERNS fall into three major categories: substances designated as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended; oil and petroleum products, as defined by the Clean Water Act of 1972 (CWA), as amended by the Oil Pollution Act of 1990; and all other types of materials.

Notification Type	1987	1988	1989	1990	1991	1992	1993	1994
CERCLA	4,541	5,176	6,865	6,555	6,801	7,181	7,301	7,656
Oil & Petroleum	15,344	15,363	17,039	19,937	20,475	21,011	21,512	23,308
Other	6,646	7,922	9,427	7,693	8,205	7,473	8,298	8,546
Total for Year	26,531	28,461	33,331	34,185	35,481	35,665	37,111	39,510

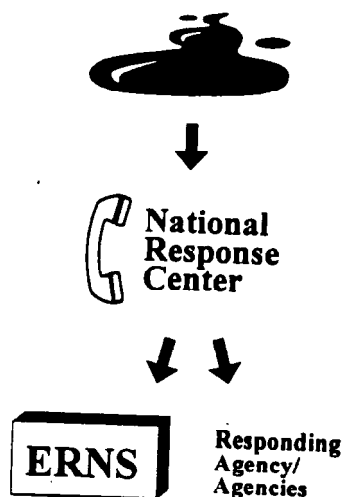
Note: Numbers are based on initial notifications to the Federal government and are subject to change.

### Data Limitations

Because ERNS is a database of initial notifications and not incidents, there are several limitations to the data. ERNS primarily contains initial accounts of releases, made during or immediately after a release occurs when exact details are often unknown. The data are usually not updated unless an EPA Region is involved in the response action. There may be multiple reports for a single incident, (this occurs when the caller makes a second report to update original data or a private observer reports a release that has already been reported by the facility). Because reports are taken over the phone, transcription errors (e.g., misspellings of discharger or location information), occasionally limit the quality of some data.

## How Are Notifications Collected in ERNS?

When a call is made to the NRC or one of the ten EPA Regions, a report is created containing all of the release information that the caller provided. The data usually include information about the material and the quantity released, the discharger, and the location of the release. This report is transferred to an appropriate agency which evaluates the need for a response, and once daily all records are electronically transferred to the ERNS data base. In addition, each of the EPA Regions can update ERNS records if additional information becomes available after the initial notification. However, if a caller makes an additional report to update previous data, a second record is created and transferred to the ERNS data base.



### Examples of Responding Agencies:

- U.S. Environmental Protection Agency (EPA)
- United States Coast Guard (USCG)
- U.S. Department of Transportation (DOT)
- State Emergency Response Commission (SERC)
- Federal Emergency Management Agency (FEMA)
- Local Emergency Planning Committee (LEPC)

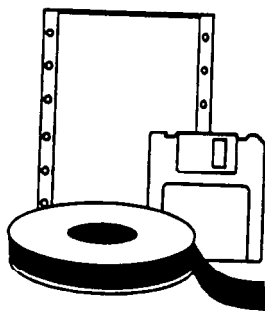
## What Types of ERNS Data Outputs are Available?

ERNS data are available in various forms. The cost of obtaining ERNS data is determined based on the medium used and the time and effort expended to fill the request. Data can either be delivered via First Class Mail or e-mail through the Internet. General descriptions of the information formats are provided below:

**Summary Release Information:** These reports in table format offer a broad overview of data and are useful for analyzing trends in chemical and oil releases, or comparing groups (e.g., total release reports involving crude oil by year).

**Standard ERNS Reports:** These reports are either dBASE<sup>2</sup> files or one page reports in various wordprocessing formats containing information about specific release notifications. This format is best for providing information on a small subset of data, such as notifications from a particular geographical region, on a specific chemical, or about an individual site.

**ERNS database:** This is recommended for requestors who have extensive needs for ERNS data. The database is available two ways, (1) all data by year which is available on magnetic data tapes from the National Technical Information Service (NTIS), or (2) data for each EPA Region by year which may be downloaded from EPA via the Internet, direct dial-in, or FedWorld. The magnetic data tapes may be purchased from NTIS in Springfield, VA at (703) 487-4650. Information on downloading data may be obtained by calling the ERNS Information Line (see "How Can ERNS Data Be Obtained" on page 3).



## What Information is Available in ERNS?

ERNS contains, in addition to other data, information about the material and the quantity released, where the release occurred, when the release occurred, what agencies have been notified, and any information about property damage, injuries, and deaths occurring due to the release. In addition, when analyzing ERNS data, it is always important to consider that the information is typically based on the initial notification reported to a number of government agencies. Therefore, especially with historic data, there may be inconsistencies in the data because of different methods of data entry.



# An Overview of ERNS

## Emergency Response Notification System (ERNS) Fact Sheet

Office of Emergency and Remedial Response  
Emergency Response Division 5202G

Quick Reference Fact Sheet

### What is ERNS?

The Emergency Response Notification System (ERNS) is a database used to store information on notifications of oil discharges and hazardous substances releases. The ERNS program is a cooperative data sharing effort among the Environmental Protection Agency (EPA) Headquarters, the Department of Transportation Research and Special Programs Administration's (RSPA) John A. Volpe National Transportation Systems Center, other DOT program offices, the ten EPA Regions, and the National Response Center (NRC). EPA Headquarters manages and provides significant funding for ERNS, and RSPA provides operation and maintenance support through an interagency agreement with EPA. ERNS provides the most comprehensive data compiled on notifications of oil discharges and hazardous substance releases in the United States. Since its inception in 1986, more than 275,000 release notifications have been entered into ERNS.

### Release Notifications in ERNS

The types of release reports that are available in ERNS fall into three major categories: substances designated as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended; oil and petroleum products, as defined by the Clean Water Act of 1972 (CWA), as amended by the Oil Pollution Act of 1990; and all other types of materials.

Notification Type	1987	1988	1989	1990	1991	1992	1993	1994
CERCLA	4,541	5,176	6,865	6,555	6,801	7,181	7,301	7,656
Oil & Petroleum	15,344	15,363	17,039	19,937	20,475	21,011	21,512	23,308
Other	6,646	7,922	9,427	7,693	8,205	7,473	8,298	8,546
Total for Year	26,531	28,461	33,331	34,185	35,481	35,665	37,111	39,510

Note: Numbers are based on initial notifications to the Federal government and are subject to change.

### Data Limitations

Because ERNS is a database of initial notifications and not incidents, there are several limitations to the data. ERNS primarily contains initial accounts of releases, made during or immediately after a release occurs when exact details are often unknown. The data are usually not updated unless an EPA Region is involved in the response action. There may be multiple reports for a single incident, (this occurs when the caller makes a second report to update original data or a private observer reports a release that has already been reported by the facility). Because reports are taken over the phone, transcription errors (e.g., misspellings of discharger or location information), occasionally limit the quality of some data.

## Regional Contacts for ERNS Information

**U.S. EPA Region 1**  
Freedom of Information Act Office  
JFK Federal Building (REA)  
Boston, MA 02203

**U.S. EPA Region 2**  
Freedom of Information Act Office  
Office of External Programs  
26 Federal Plaza, Room 905  
New York, NY 10278  
(212) 264-2515

**Region 9**  
AZ, CA, HI, NV, American Samoa,  
Guam, Commonwealth of the Northern  
Mariana Islands, Trust Territory of the  
Pacific Islands

**U.S. EPA Region 3**  
Freedom of Information Act Office  
(3EA10)  
841 Chestnut Street  
Philadelphia, PA 19107

**U.S. EPA Region 4**  
Freedom of Information Act Office  
345 Courtland Street, N.E.  
Atlanta, GA 30365  
(404) 347-3931

**U.S. EPA Region 5**  
Freedom of Information Act Office  
(MI-13J)  
77 West Jackson Boulevard  
Chicago, IL 60604  
(312) 886-0397

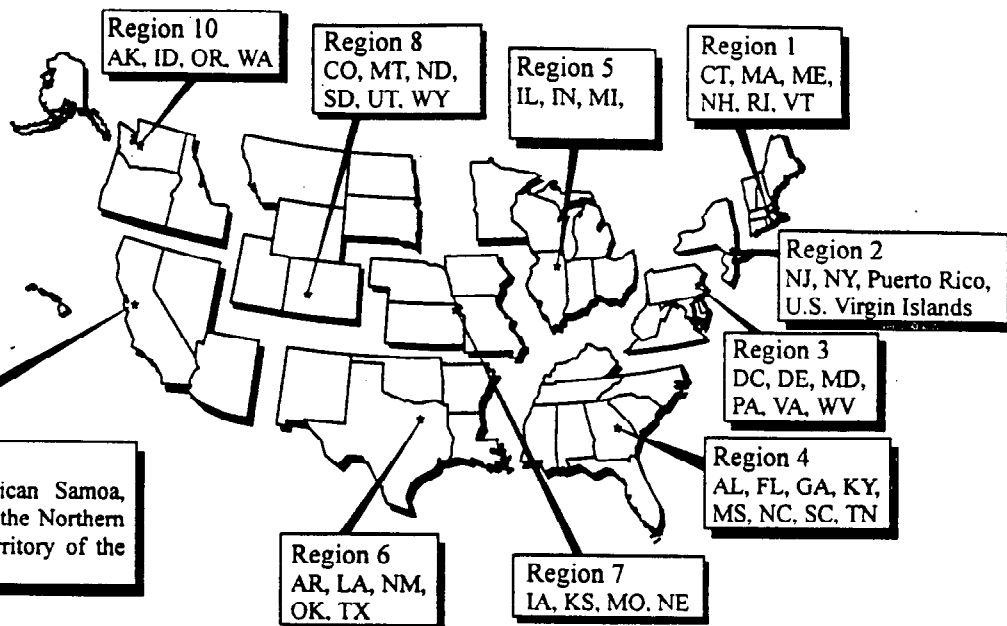
**U.S. EPA Region 6**  
Freedom of Information Act Office (6M-  
ASC)  
1445 Ross Avenue  
Dallas, TX 75202-2733  
(214) 655-2292

**U.S. EPA Region 7**  
Freedom of Information Act Office  
726 Minnesota Avenue  
Kansas City, KS 66101

**U.S. EPA Region 8**  
Freedom of Information Act Office  
(80EA)  
999 18th Street, Suite 500  
Denver, CO 80202-2405

**U.S. EPA Region 9**  
Freedom of Information Act Office (E-2)  
75 Hawthorne Street  
San Francisco, CA 94105  
(415) 744-1586

**U.S. EPA Region 10**  
Freedom of Information Act Office  
(SO-086)  
1200 Sixth Avenue  
Seattle, WA 98101  
(206) 553-2949



Disclaimer: Mention of trade names or commercial products does not constitute endorsement or recommendation for use.

Page 4



United States  
Environmental Protection  
Agency (OS-120)  
Washington, DC 20460

Official Business  
Penalty for Private Use  
\$300



## Why Report Releases to ERNS?

There are four primary Federal statutes that require release reporting including CERCLA, the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA), the Hazardous Material Transportation Act of 1974 (HMTA), and the CWA. In addition, because CERCLA defines hazardous substances to include CWA hazardous substances and toxic pollutants, the Clean Air Act hazardous air pollutants, the Resource Conservation and Recovery Act hazardous wastes, and the Toxic Substances Control Act imminently hazardous chemical substances, releases of these substances are also subject to CERCLA reporting requirements. Part or all of the information from these reports may be collected in ERNS. The four primary statutes and their resulting regulations, citations, and relationship to ERNS are shown in the table below.

Statute	Cite for Reporting Requirements	Description
CERCLA Section 103	40 CFR Part 302.6 Part 300.405	Requires that the release of a CERCLA hazardous substance that meets or exceeds the reportable quantity (RQ) set forth in 40 CFR 302.4 must be reported to the NRC. These substances account for on average 19% of all the notifications in ERNS.
EPCRA	40 CFR Part 355.40	Requires that the release of an RQ or more of an EPCRA extremely hazardous substance or a CERCLA hazardous substance (one pound or more if a reporting trigger is not established by regulation) that results in exposure of people outside the facility boundary be reported to State and local authorities.
HMTA	49 CFR Part 171.15	Requires that the release of a DOT hazardous material during transportation be reported to the NRC under certain circumstances such as death, injury, significant property damage, evacuation, highway closure, etc.
CWA Section 311	40 CFR Part 300.300 Part 110.10	Requires that the release of oil be reported to the NRC if the release: (1) violates applicable water quality standards; (2) causes a film, sheen or discoloration of the water or adjoining shoreline; or (3) causes a sludge or an emulsion to be deposited beneath the surface of the water or upon the adjoining shorelines. Oil notifications account for on average 57% of all notifications in ERNS.

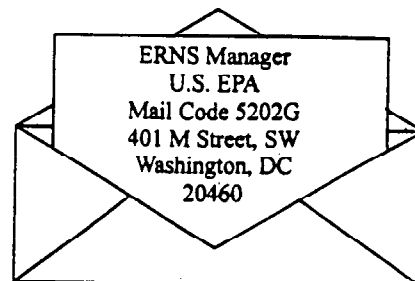
## What is ERNS Used For?

The primary purpose of ERNS is to standardize and collect notifications made to the Federal government of releases of oil and hazardous substances. These notifications are used by On-Scene Coordinators (OSCs) to determine an appropriate Federal response action, and to assist decision makers in solving emergency response and release prevention issues. ERNS data are also used to support other EPA programs. Specific examples of ERNS data applications include:

- Guidance and Regulatory Development
- Responses to Congressional Inquiries
- Response Preparedness
- Compliance and Enforcement Support
- Environmental Planning
- Statistical and Trend Analysis
- Academic Research
- Property Transfer/Site Audits

## How Can ERNS Data Be

Information on the ERNS database may be obtained by calling the ERNS Information Line at (202) 260-2342, by sending an e-mail request to [erns.info@epamail.epa.gov](mailto:erns.info@epamail.epa.gov), by contacting the Freedom of Information Act (FOIA) Officer in the specific EPA Region of interest, or by contacting EPA at the following address. Addresses and telephone numbers of the EPA Regional FOIA offices are provided on page 4.



## Why Report Releases to ERNS?

There are four primary Federal statutes that require release reporting including CERCLA, the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA), the Hazardous Material Transportation Act of 1974 (HMTA), and the CWA. In addition, because CERCLA defines hazardous substances to include CWA hazardous substances and toxic pollutants, the Clean Air Act hazardous air pollutants, the Resource Conservation and Recovery Act hazardous wastes, and the Toxic Substances Control Act imminently hazardous chemical substances, releases of these substances are also subject to CERCLA reporting requirements. Part or all of the information from these reports may be collected in ERNS. The four primary statutes and their resulting regulations, citations, and relationship to ERNS are shown in the table below.

Statute	Cite for Reporting Requirements	Description
CERCLA Section 103	40 CFR Part 302.6 Part 300.405	Requires that the release of a CERCLA hazardous substance that meets or exceeds the reportable quantity (RQ) set forth in 40 CFR 302.4 must be reported to the NRC. These substances account for on average 19% of all the notifications in ERNS.
EPCRA	40 CFR Part 355.40	Requires that the release of an RQ or more of an EPCRA extremely hazardous substance or a CERCLA hazardous substance (one pound or more if a reporting trigger is not established by regulation) that results in exposure of people outside the facility boundary be reported to State and local authorities.
HMTA	49 CFR Part 171.15	Requires that the release of a DOT hazardous material during transportation be reported to the NRC under certain circumstances such as death, injury, significant property damage, evacuation, highway closure, etc.
CWA Section 311	40 CFR Part 300.300 Part 110.10	Requires that the release of oil be reported to the NRC if the release: (1) violates applicable water quality standards; (2) causes a film, sheen or discoloration of the water or adjoining shoreline; or (3) causes a sludge or an emulsion to be deposited beneath the surface of the water or upon the adjoining shorelines. Oil notifications account for on average 57% of all notifications in ERNS.

## What is ERNS Used For?

The primary purpose of ERNS is to standardize and collect notifications made to the Federal government of releases of oil and hazardous substances. These notifications are used by On-Scene Coordinators (OSCs) to determine an appropriate Federal response action, and to assist decision makers in solving emergency response and release prevention issues. ERNS data are also used to support other EPA programs. Specific examples of ERNS data applications include:

- Guidance and Regulatory Development
- Responses to Congressional Inquiries
- Response Preparedness
- Compliance and Enforcement Support
- Environmental Planning
- Statistical and Trend Analysis
- Academic Research
- Property Transfer/Site Audits

## How Can ERNS Data Be

Information on the ERNS database may be obtained by calling the ERNS Information Line at (202) 260-2342, by sending an e-mail request to [erns.info@epamail.epa.gov](mailto:erns.info@epamail.epa.gov), by contacting the Freedom of Information Act (FOIA) Officer in the specific EPA Region of interest, or by contacting EPA at the following address. Addresses and telephone numbers of the EPA Regional FOIA offices are provided on page 4.

